Acupuncture for Parkinson’s Disease

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Acknowledgments

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Outline

• **Cases at UNC Hospital**
  • The way I see Parkinson’s D.
  • How acupuncture may work?
  • Summarize the latest evidence of acupuncture for PD
Case 1 - June 27, 2011

- 63 yr old, Men, 5 Year Post Diagnosis
- Reasons for visit:
  - Back pain (tightening and pulling one side), bloating, left hamstring pain.

- History:
  - Left hamstring tightness 7-8 years ago, (his wife says ever since she knew him more than 30 years ago). >> Rely on daily pain medicine
  - Left eye lid droops easily whenever he gets tired.
  - Long lasting GI issue, heart burn, gluten intolerance, bloating
  - Facial, pelvic asymmetry, spinal curvature
Case 1 – Aug 12, 2011

- After 8 Treatment sessions,
  - Does not rely on pain medicine. Preventively take it only for 6 hour long meeting
  - Now walks 2 miles and swims for 30 minutes daily.
  - His wife is happy with the outcome, and hopeful for continuous improvement of his Quality of Life.
Case 1 – Approaches

1. Diet review and revision
2. Acupuncture + Moist heat
3. Swimming
4. TMJ Balance Device
5. Mindful posture
Case 2 - May 19, 2011

- 64 yr old, Lady, more than 35 Year Post Diagnosis
- Reasons for visit: Back pain

- History:
  - Advanced Parkinson disease status post deep brain stimulator; Cognitive impairment; Sleep disorder; B12 deficiency; Labile hypertension related to Parkinson's; GERD; Degenerative joint disease; Chronic headaches; bloating
  - Facial, pelvic asymmetry, spinal curvature
  - Rely on pain medicine for back pain
  - In addition to 16 medications
Case 2 – June, 2011

• **After 4 Treatment sessions,**

• Does not rely on pain medicine for the back pain.
• Improved gait observed (See the letter of the aide)
• Abdominal bloating significantly improved. (After about 12 sessions)
My name is [redacted]. I have been her aide for almost 3 years. I have observed and assisted her for all these years and her walking and standing up straight was giving her some problems. She started to fall so much because she also has Parkinson disease. So her doctor referred her for acupuncture, she started two weeks ago in May 2011 and now I have observed a great improvement in her. She can stand up straight and her walking has improved so much too and she is falling less and less everyday. Thank you doctor Parks.
Case 2 – Approaches

1. Diet review and revision
2. Acupuncture + Moist heat
3. Aquatic Exercise
4. TMJ Balance Device
5. Pelvic acupressure
Outline

• Cases at UNC Hospital

• **The way I see Parkinson’s D.**

• How acupuncture may work?

• Summarize the latest evidence of acupuncture for Parkinson’s Disease
Common PD signs & symptoms

Motor Symptoms of PD: TRAP:
• Tremor at rest
• Rigidity
• Akinesia (impaired body movement) or bradykinesia (slowness of movement)
• Postural deformity and instability.

Non-Motor Symptoms of PD:
• Autonomic dysfunction (hypotension; sweating, sphincter, or erectile dysfunction)
• Cognitive and neurobehavioral abnormalities (dementia, depression, obsessive-compulsive or impulsive behavior)
• Sleep disturbances
• Sensory abnormalities (such as olfactory dysfunction, paresthesia (pins and needles), akathisia (extreme restlessness) and oral and genital pain
Parkinson’s, What is it?

• Degenerative disorder of the central nervous system.
• Results from the death of dopamine-containing cells in the substantia nigra, a region of the midbrain.
• The cause of cell-death is unknown.
Flow matters

NORMAL CEREBRO-SPINAL FLUID (C.S.F.) FLOW

- BRAIN
- PUMP 1
- DURAL TUBE
- PUMP 2
- SPINAL CORD
- C.S.F. FLOW
- PELVIS
- PUMP 3
Sutural Jamming

- Mal-occlusion
- Imbalance of TMJ
- Dural tension
- Upper cervical subluxation
- Extra-dura muscular tension
- Pelvic distortion
- Gait dysfunction
Outline

• Cases at UNC Hospital
• The way I see Parkinson’s D.

• **How acupuncture may work?**

• Summarize the latest evidence of acupuncture for Parkinson’s Disease
Stagnation spot >> Circulation Clog >> AcuPoint

Tight, Rigid, Tender spots
Systemically ill

Congestion in Raleigh Rd
Supply Issue in Raleigh

Peri hemo-rheological
Hemo-rheological

Vitality Flow – Will of the Nature
Acupuncture >> Stirring Clog >> easily removable by the flow of vitality

Elastic, Flexible

Smooth Traffic in Raleigh Rd

Systemically well

No Issue in Raleigh

Peri hemo-rheological

Hemo-rheological

Vitality Flow – Will of the Nature
Increasing sensitized Acupoints
Primary
Increasing sensitized Acupoints
Secondary

- 27 Temporomandibular
- 30 Masseter
- 50 Mental
- 28 Cervical plexus
- 37 Medial pectoral
- 38 Radial
- 32 Xyphoid
- 25 Medial antebrachial cutaneous
- 29 Deep radial - II
- 34 Lesser occipital
- 42 Spinal accessory - II
- 49 Supraspinatus
- 40 Axillary
- 35 Posterior cut. of T4
- 39 Spinous process of T5
- 47 Posterior cutaneous of T8
- 41 Posterior cutaneous of L1
Increasing sensitized Acupoints

Nonspecific
Increasing sensitized Acupoints Areas

98 Frontalis
95 Nasion
100 Lacrimal
83 Zygomaticofacial
92 Depressor septi
101 Mentalis
86 Lateral supraclavicular
85 Medial clavicular
89 Sternal angle
107 Ant. cutaneous of T8
103 Ant. cutaneous of T10
90 Posterior auricular
96 Occipital protuberance
99 Spinous process of T10
94 Lateral cutaneous of T10
110 Olecranon
102 Posterior cutaneous of S3
Outline

• Cases at UNC Hospital
• The way I see Parkinson’s D.
• How acupuncture may work?

• **The latest evidence of acupuncture for Parkinson’s Disease**
Study 1: Lam et al. 2008

Review of 10 RCTs comparing monotherapy and adjuvant acupuncture therapy with placebo or no intervention in subjects diagnosed with idiopathic Parkinson’s Disease.
<table>
<thead>
<tr>
<th>Authors</th>
<th>N</th>
<th>Treatment</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yao 2007</td>
<td>45</td>
<td>Acup (S + B) : Acup (S + B) + Madopar : Madopar</td>
<td>Acup ≈ Acup + Madopar &gt; Madopar</td>
</tr>
<tr>
<td>Yang, 2006a</td>
<td>26</td>
<td>EAcup (S + B) + Madopar : Madopar</td>
<td>EAcup + Madopar &gt; Madopar</td>
</tr>
<tr>
<td>Yang, 2006b</td>
<td>38</td>
<td>EAcup (S + B) + benserazine-levopoda (B-L) : B-L</td>
<td>EAcup + B-L &gt; B-L</td>
</tr>
<tr>
<td>Wang 2006</td>
<td>76</td>
<td>EAcup (S) + Madopar : Madopar</td>
<td>EAcup + Madopar &gt; Madopar</td>
</tr>
<tr>
<td>Jiang 2006</td>
<td>30</td>
<td>EAcup (S) + Madopar : Madopar</td>
<td>EAcup + Madopar &gt; Madopar</td>
</tr>
<tr>
<td>Cristian 2005</td>
<td>14</td>
<td>EAcup (S + B) + PD med : sham acup + PD med</td>
<td>EAcup + PD med ≈ Sham Acup + PD med (Trend)</td>
</tr>
</tbody>
</table>
### General characteristics of RCTs studying Acupuncture for PD 2

<table>
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<tr>
<th>Authors</th>
<th>N</th>
<th>Treatment</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fu 2004</td>
<td>64</td>
<td>EAcup (S + B) + Madopar : Madopar</td>
<td>EAcup + Madopar &gt; Madopar</td>
</tr>
<tr>
<td>Wang 2003</td>
<td>18</td>
<td>EAcup (S) : Madopar</td>
<td>EAcup &gt; Madopar</td>
</tr>
<tr>
<td>Zhang 2000</td>
<td>64</td>
<td>EAcup + Artane, amantadine, or lipodpa : Artane, amantadine, or lipodpa (depending on severity of PD)</td>
<td>EAcup + med &gt; Med only</td>
</tr>
<tr>
<td>Wang 2000</td>
<td>43</td>
<td>EAcup (S+B) : Levodopa/benserazine therapy : No treatment</td>
<td>EAcup &gt; L/B therapy &gt; No treatment</td>
</tr>
</tbody>
</table>
Currently available data suggest that acupuncture is effective and safe therapy for PD.
Problems with the studies reviewed by Lam et al.

- All 10 trials have serious problems in methods and reporting.
- 9 of the 10 included trials were performed in China, where publication bias is widely known.
Study 2: Lee et al. 2007

- Review of 11 RCTs on the effect of acupuncture on Parkinson’s Disease (regardless of design.)
Discussion

- acup + drugs ≈ drugs on severity of PD (Two RCTs, Chen et al. 2007, Li 2003)
- scalp electro-acupuncture + conventional drug > drug (2 RCTs, Jiang et al. 2006, Wang et al. 2006)
- Possible mechanisms: improvement of superoxide dismutase activity and reduction of lipid peroxides or an effect on the nigrostriatal dopaminergic system that helps to recover motor function
Study 3: Shulman et al.

Brief Report

Acupuncture Therapy for the Symptoms of Parkinson’s Disease

Lisa M. Shulman, MD, X. Wen, MD, William J. Weiner, MD, Dinorah Bateman, RN, Alireza Minagar, MD, Robert Duncan, PhD, and Janet Konefal, PhD

- Not included in previous reviews.)
Summary

- 20 patients with idiopathic PD stage I-III on stable antiparkinsonian medication for at least 1 month
- First seven patients received 10 treatments over 5 weeks and next 13 patients received 16 treatments over 8 weeks.
- Various Outcome measures on motor, depression, a patient questionnaire.
- **significant improvements on sleep and rest. 85% of patients reported subjective improvement** on at least one of their individual symptoms including tremor, walking, handwriting, slowness, pain, sleep, depression, and anxiety. No adverse events reported.
Discussion

• Current research methodologically flawed. However, currently available data suggests that acupuncture is an effective and relatively safe therapy in treating IPD.

• Particularly, acupuncture can reduce adverse events, improve sleep, and improve subjective health measures.
MPTP: Neurotoxin destroying dopaminergic neurons
Proteomic analysis of the neuroprotective mechanisms of acupuncture treatment in a Parkinson’s disease mouse model

Songhee Jeon¹*, Youn Jung Kim²*, Seung-Tae Kim³, Woongjoon Moon³, Younbyoung Chae³, Minjeong Kang², Mi-Young Chung⁴, Hyangsook Lee³, Mi-Sook Hong⁴, Joo-Ho Chung⁴, Tong H. Joh⁵, Hyejung Lee³ and Hi-Joon Park³

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⁵ Department of Neurology and Neuroscience, Weill Medical College of Cornell University, NY, USA
Conclusion

• Further research needed with improved methodology and larger sample sizes.

• Acupuncture should continue to be explored as a safe adjunct treatment for PD.

• Future research Qs
  » Can acup reduce the need of L-dopa?
  » Reduce adverse effects of L-dopa (dyskinesia)
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THANK YOU